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DIFFERENTIAL DIAGNOSIS OF ALCOHOLIC COMA FROM OTHER FORMS OF COMA, WITH ESPECIAL REFERENCE TO THE CARE OF PERSONS FOUND BY THE POLICE ON THE STREETS IN A COMATOSE OR SEMI-COMATOSE CONDITION.

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The differential diagnosis of alcoholic coma from other forms of coma is not unfrequently attended with much difficulty, and not only to those who have given little, if any, attention to the differentiation of the various forms of coma, but also to experienced practitioners and diagnosticians. It may be said that certain cerebral conditions are very similar to alcoholic coma in their general symptoms — and not unfrequently mistaken for it. This is especially the result when, as is not uncommonly the case, the person is taken sick or faint upon the street, and sympathetic bystanders administer the usual dose of whisky from the ever-present "pocket flask." Under such circumstances a cerebral lesion with its accompanying stupor, complicated with the smell of

alcohol in the breath of the person, may well tax for the time being even the diagnostic skill of an experienced practitioner. A similar condition also pertains as when a person, we will say, returning from some convivial entertainment slightly intoxicated, falls and sustains a cerebral lesion. Here we have a decidedly mixed case, and unless the symptoms that accompany the cerebral lesion are well marked, such as are manifest in the case of a fracture of the skull with depression, or fracture at the base with aural hemorrhage, or a marked facial paralysis or hemiplegia, immediate diagnosis cannot be made, and we will of necessity have to delay the diagnosis until, it may be, some hours have elapsed and the effect of the alcoholic complication passed off

It will be noticed that the difficulty of and the failure to make a proper diagnosis in these cases is first due to the great similarity under certain conditions of alcoholic coma and other forms of coma of cerebral or other origin ; and, secondly, to the fact that the person who attempts to make it is incompetent to do so, or is superficial, careless, or indifferent in arriving at his conclusions, or by force of necessity due to the urgency of the case, is forced, as it were, to decide hastily, and so literally "jump at" an erroneous conclusion.

Take a hypothetical case. A person is found unconscious on the street by the police. The police are in doubt and call an ambulance. The ambulance surgeon detects the odor of alcohol, and other symptoms similar to alcoholic intoxication — stupor, mental confusion, partial consciousness ; on being aroused, in a maudlin way the person may give his name and address, then lapse into unconsciousness. There is no apparent evidence of any cerebral disease or injury, or, indeed, of any other condition that could produce just these symptoms. Here is a case that certainly simulates alcoholic intoxication ; besides, there is the corroborative evidence — the alcoholic odor to the breath. The decision must be promptly made. The hospital has a standing rule that "drunks" must not be taken in, or, in the official language, they are "refused." The ambulance surgeon must not break

this rule ; therefore, on what he thinks is good evidence, he "refuses to remove the case," and in his desire naturally not to infringe the hospital rule, he gives the benefit of the doubt to the hospital, and the patient is removed to the station house. He is there received and registered as "drunk;" if at all demonstrative, "disorderly." He is placed in a cell. Some hours will elapse before his case is disposed of, and in the meanwhile he will sleep off his "drunk."

In due time the cell door is unlocked, but the prisoner will never appear before an earthly tribunal. The "dead drunk" has slept his last sleep. Next in order a "coroner's case." An inquest is held. The testimony is taken before the usual jury, and the cause assigned is "alcoholism and exposure;" but, unfortunately for the authorities and fortunately for the deceased, his friends are not satisfied with the finding of the coroner's jury, and insist on an autopsy, and the actual cause of death is found to be fracture of the skull, or some other fatal cerebral lesion.

A similar case occurred not long since in a prominent western city, and formed the basis of an editorial in one of our leading medical journals.* Calling attention to the evils that attend the present method of dealing with the class of cases under consideration here, it said : "The intelligent coroner's jury heard the testimony of the intelligent officers, and rendered the intelligent verdict that death was the result of acute alcoholism." A second inquest held resulted in a verdict in accordance with facts — a fracture of the skull. The testimony further brought out the fact that the deceased was not a drinking man.

We now desire to dwell more especially at first upon the differentiation of alcoholic coma from other forms of coma. Dr. J. Hughlings Jackson, F.R.C.P., in his article on "Cerebral Hemorrhage and Apoplexy,"— *Reynolds' System of Medicine*, p. 902 — thus writes under the caption "Special Diagnosis":

"*Drunkenness.*—The smell of drink must only lead us

* Journal of the Amer. Med. Association.

to a very careful examination of drunkenness, as patients who suffer cerebral hemorrhage may have been drinking, or may have taken spirits for premonitory symptoms. Oddly enough, patients soundly drunk, their real condition not being recognized, are now and then treated by doses of brandy and water.

This shows in another way the difficulties of diagnosis. A drunken man may be in one of two conditions. (1) He may be insensible without excitement; he may, indeed, be as deeply comatose as if he had extensive and fatal cerebral hemorrhage. This is so when the patient has been 'sucking the monkey,' that is, sucking raw spirits out of a cask by aid of a gas piping, or when he has drunk off a large quantity of spirits for a wager or out of bravado. In these cases, from the condition of the patient alone we cannot make a diagnosis, although, fortunately, it is usually made for us by the history. If we hear that the insensibility began suddenly, or if the patient all at once staggered and fell insensible, cerebral or meningeal hemorrhage is almost as likely.

Let us now suppose there is no history of the mode of onset, *the patient being found in the street by the police.* We try to rouse him, and we may get him to give his name or his address. There is, perhaps, some evidence that the case is not one of cerebral hemorrhage, but it had better be disregarded, as patients comatose from fatal cerebral lesions of several kinds can be aroused so far. That he resists our endeavors to examine him or swears when aroused is of no value at all as excluding fatal lesion of the brain. The patient may vomit (as he may in cerebral hemorrhage), and the vomit may reveal the nature of the case; if he does not we are justified in doubtful cases in using the stomach pump. Then the drunken patient oftener passes his urine and feces than do other apoplectic patients. Again, we may find alcohol in the urine. The mere presence of alcohol in the urine is not to be relied on to show that the apoplectic patient is suffering from a poisonous dose of alcohol only.

As before said, a drunken man may owe his coma in part

at least to hemorrhage into the arachnoid cavity. However, Dr. Anstie tells me that it would be possible to recognize the presence of a poisonous dose of alcohol in the system if one drop of the urine itself added to 15 minims of a chromic acid solution* turned the latter immediately a bright emerald green.

The other condition is one of excitement, of which there are all degrees. As we have seen, the patient, who, when left to himself, is insensible, may be aroused to resist and swear, but the main features of a case to which we are called may be one of 'uproariousness.' If the patient be violent and struggle, he is probably drunk.

A cautious man will still continue his examination for other causes, because it is certain that after severe and fatal injuries to the head the patient may struggle and swear, and even, as I saw in one of Mr. Hutchinson's cases, make a definite reply, as, 'What's that to you about my tongue?' when asked to put his tongue out. I have recorded a case supplied to me by Mr. Stephen Mackenzie, in which violence and swearing were the striking symptoms in a case of death from meningeal hemorrhage. As in this case, we have often a history of a mode of onset under circumstances which exclude the diagnosis of drunkenness. But to make a diagnosis from the condition of the patient only is quite a different thing. We can only make a diagnosis by exclusion, and the most important thing is to exclude injury to the head. The young practitioner must not hastily conclude that a patient is 'only drunk' even if he be only confused, or if he swears or is violent, or if he lies on his back insensible, growling or swearing if disturbed. If he does, I am quite certain that he will have now and then bitterly to regret trusting to such circumstances. To have said that a patient was 'only drunk' when a post mortem examination shows a fatal lesion of the brain is very painful to all concerned. Besides, deep intoxication is itself a serious matter."

* Bichromate of potash 1 part, and 300 parts by weight of strong sulphuric acid.

An article entitled "Practical Differentiation of Inebriety from Coma, etc.," written by Dr. John Morris of Baltimore, Md., was published in THE QUARTERLY JOURNAL OF INEBRIETY, June, 1879, also since appearing as a reprint.* This article is full of suggestion, and of so practical a nature that we are almost tempted to incorporate it in this paper, but we will endeavor to give an ample synopsis of it.

"The frequent occurrence of blunders in mistaking brain diseases for drunkenness, and the serious reproach they bring on medical men, render it necessary that more earnest attention should be paid to the subject than heretofore, and that a higher knowledge should be obtained of the character of the dangers incident to these accidents. Unfortunately, drunkenness has not, save in a few instances, been studied as a disease, and consequently the manifestations pertaining to it are very little understood. This ignorance is particularly unfortunate when it is necessary to distinguish between it and brain troubles."

With this statement the author then enumerates the different conditions resulting from disease or injury that may be mistaken for drunkenness.

1. Fracture of the skull.
2. Concussion of the brain.
3. Cerebral hemorrhage.
4. Embolism and thrombosis.
5. Uraemia.
6. Epilepsy.
7. Narcotic poisoning.
8. Heat apoplexy.

"In case of fracture of skull or concussion, in the absence of a history, the diagnosis is extremely difficult. Coma in these cases, frequently profound, simulates drunkenness. Alcoholic odor on breath is not a reliable guide, as a moderate quantity of alcohol, not enough to produce coma, may so affect the breath; also, alcohol is frequently given in case of accident, after the accident, before the physician arrives.

* "The Disease of Inebriety," E. B. Treat, publisher, New York, 1893.

"The temperature, the condition of the pupils, the breathing, should be carefully noted; but the true rule *is to keep the patient under close and constant watch* until a fixed diagnosis is obtained. I desire to emphasize the fact that there are conditions under which it is clearly impossible to draw the line between simple profound alcoholic coma and coma arising from cerebral lesions; or, on the other hand, to diagnose certain forms of cerebral lesions from alcoholic intoxication, until in both instances the case may have been under observation some hours. In all cases look for wounds or bruises, or depression of skull, and the usual signs belonging to all forms of cerebral lesions, *whether the breath of the patient be alcoholic or not.*"

Mr. Lawson, of Middlesex Hospital, reports a case as follows:

"The patient was taken to the police cell as drunk; examined by a physician; recovered from his apparent semi-consciousness; was able to converse after a few hours; severe cerebral symptoms came on; was transferred to hospital; died on the thirteenth day; autopsy revealed laceration of brain substance, extensive hemorrhage, and fracture or fissure extending into lambdoidal suture. A remarkable feature of this case was absence of paralysis notwithstanding severe cerebral injury; with the exception of loss of power over sphincters there was no paralysis whatever."

Cerebral hemorrhage is more frequently mistaken for drunkenness than any other trouble, for the reason that the symptoms are similar in several stages of the two conditions.

There is a stage of noisy violence and uproar in both, and then a condition of complete coma.

In ordinary cases of apoplexy we look for paralysis of one side or the other; but this does not obtain if the hemorrhage be into the pons or lateral ventricle. We may have convulsions in both diseases, but usually they are more severe on one side in apoplexy.

"*The state of the pupil cannot always be relied on as a differential test.*"

Doctor MacEwen of Glasgow says "that the ordinary opinion that dilation of the pupils is found in alcoholic coma is incorrect, but that contraction is the rule. He accidentally discovered, that if a patient was shaken, or rudely disturbed, the pupils dilated, but very soon contracted again."

He therefore lays down as a rule, that an insensible person, who, being left undisturbed for ten to thirty minutes, has contracted pupils which dilate on his being shaken, without any return of consciousness, and then contract again, can be under no other state than alcoholic coma. Unfortunately for this test, Dr. Reynolds has observed the same phenomena in patients suffering from acute softening under the same tests.

The truth is that in cerebral hemorrhage the pupils present no fixed regularity. These conditions may even vary in different cases of the same lesion.

Ingravescent apoplexy generally commences with delirium or convulsions, and coma comes on slowly and gradually. These are the cases that are frequently mistaken for drunkenness, provided the smell of alcohol is discovered in the breath of the patient.

Embolism and *Thrombosis.* In embolism, coma is sudden and transient; in thrombosis, paralytic symptoms are marked.

Uræmic coma. Generally preceded by convulsions — breath a peculiar odor — urine albuminous — and other evidence of kidney disease — patient can be catheterized and urine examined.

In cases of coma, where uræmia is suspected and there is suppression of urine, catheterization finding an empty bladder will help confirm diagnosis.

Urine may become temporarily albuminous from the inordinate use of alcohol — even when kidney disease does not exist, the urine and the action of the kidneys becoming normal after the effects of the alcohol have passed away.

Epilepsy. Is often complicated with alcoholic intoxication, as the results of it. Epileptic coma is, however,

usually of short duration. The tongue is bitten or bleeding. Where epilepsy follows an alcoholic debauch, the coma may be prolonged — possibly merge into an alcoholic coma, the patient sleeping off the effect in a few hours.

Opium Poisoning. Coma from an overdose of opium is similar to alcoholic coma. The extreme contraction of the pupils, regarded as the distinguishing mark in opium coma, may also occur, though possibly to not so great an extent as in alcoholic coma, and according to Dr. Wilks in apoplexy seated in *Pons varolii.* Dr. Morris thinks that the breathing in opium coma is slower than in alcoholic coma. The smell of opium, particularly if laudanum has been taken, can be detected, and is an important aid to diagnosis.

Heat Apoplexy — Sunstroke. "Coma is often the result of sunstroke, and mental disturbance and outward violence not an unfrequent result of aggravated cases. One valuable diagnostic mark in sunstroke always present is intense heat of the head found in no other disease except yellow fever." In cases of alcoholic coma, the temperature would be at or below normal.

Method of Examination in Coma.

First. *Head* for fracture or evidences of cerebral lesions scalp wounds or contusions, bleeding from ears.

Second. *Face* — facial paralysis, congested or pale.
Eyes — squinting, conjugate deviation.
Eyelids — œdematous or not.
Pupils — contracted, dilated, irregular.
Mouth — bleeding, odor of breath, alcohol or opium.
Tongue — for cicatrices, or recent tooth wounds.
Body — hemiplegia or external or internal injuries or convulsive movements.
Bladder — *note absence, condition, quantity* of urine.

Examine urine for albumen, casts, other evidence of kidney disease, and also for alcohol.

In case of marked alcoholic coma use stomach pump, evacuate and examine contents of stomach, note alcoholic fumes, etc. In as far as possible, get a history of the case antedating the attack of coma.

Note the rate and condition of pulse.

Note the frequency and depth of the respiration.

Note the temperature, whether elevated, normal, or subnormal.

Endeavor to arouse patient, ascertain degree of coma, and note any response to external impressions.

"*In conclusion, observe close attention and watchfulness in all cases of coma supposed to be due to drunkenness. Many of these cases should be placed in the observation or reception ward of a hospital*—in cases of doubt, a few hours will clear up the diagnosis, and determine whether the case is one of simple alcoholic coma or something more serious. After all, this is the only plan that can be followed in a certain class of doubtful cases, and is far better than to make a hasty diagnosis, and have the usual deplorable results which a mistaken diagnosis is certain to include."

The system heretofore pursued has been most barbarous, both in this country and Europe, and is a reproach to our civilization. Dwelling on this subject, Dr. John Curnan pointedly says:

"I must enter a protest against the routine treatment of drunkenness too generally followed, viz.: Emetics or the stomach pump, cold effusion, flecking the skin with a wet towel, and then the interrupted galvanic current.

"A patient having grumbled out a name and perhaps an address, is turned over to a policeman who speedily consigns him to a cold cell to sleep off his symptoms; it cannot too often be insisted upon that a drunken man is suffering from acute poison and cannot be too closely watched.

"All police stations should have a regularly appointed medical officer in charge, and every case of sickness, or

aggravated case of drunkenness, should be put under his care.

"Certain necessary instruments and appliances should be on hand. When these precautions are taken, and when inebriety is added to the list of diseases and its treatment taught in our schools, many lives will be saved and much unhappiness spared the community."

We have taken the liberty to present the article of Dr. Morris so fully because it not only covers the subject under discussion, but shows that the abuses involved in the method of dealing with the class of cases under consideration has been before the public for many years, and the system, with some slight improvement, if any, is still in operation. We have also *italicized* those suggestions or facts in the article that we desired to emphasize and also amplified and modified somewhat the rules laid down for examination of a person in a comatose or semi-comatose condition. We may suggest also in this connection that the police might have some simple instruction in "first aid" to such cases before medical aid can be had, such simple rules as opening the shirt collar, placing the body in a favorable position, and especially avoiding rough handling, clubbing the feet, cold water affusions, etc., before a correct diagnosis be made. The various cerebral-sedatives produce symptoms analogous to alcoholic intoxication — opium has already been referred to. But we desire to call particular attention to that condition which results from the long-continued exhibition of the bromides and is known as bromism.

Bartholow describes it as follows: "Various mental symptoms are in some subjects produced by the long-continued use of the bromides. Weakness of mind, without perversion of intellection, is a very constant result of the continued use of large doses — headache, confusion of mind, *and a sort of intoxication*, had long ago been observed to follow the use of bromide of potassium in even moderate doses (Puche).

"A form of mental derangement with hallucinations of a melancholic character has been observed by Hammond and

others." Indeed, so profound is the mental depression produced that suicide has not been an uncommon sequence of this condition. "The disorders of voluntary gait, the apparent defects of co-ordination, are variously explained; but they are doubtless made of several factors of which the cutaneous anæsthesia is the most influential. The bromides possess the power to destroy or impair the irritability of the motor and sensory nerves, and the contractility of muscle, and to these effects must be attributed in part the disorders of voluntary movement." Here we have a condition very much resembling alcoholic intoxication — confusion of mind, loss of memory, partial loss of co-ordination, a stumbling, uncertain gait — cutaneous anaesthesia.

Hammond of New York reports a case in which a patient of his while under the full action of the bromides, was arrested because of his staggering gait and his mental confusion and inability to give an account of himself. This patient was taken to the station house and the justice was about to impose the usual fine of "ten dollars or ten days," when Dr. Hammond appeared, interceded for the prisoner, explained the cause of his apparent intoxication, and secured his release.

A physician related to me his personal experiences while under full dosage of bromides — his memory seemed to fail him, almost completely; he made a professional call and remained in the house two hours, when, as it was an ordinary call, ten or fifteen minutes would have been sufficient. He afterwards said the patient regarded him as intoxicated; he also told me that he endeavored to read an article to a medical friend, and was told that he repeated the reading of it several times, not conscious of the fact he had previously read it.

Those who are at all familiar with intoxication from the bromides will at once see the similarity between that form of intoxication and intoxication from alcohol.

In addition to the statements of so prominent an observer as Dr. Jackson, and the article of Dr. Morris, to which

we have already referred, we will give the testimony of two prominent observers — Dr. Norman Kerr of London, England, and Dr. A. Baer of Berlin, Germany, who, in reply to a request for information as to the method of dealing with the class of cases under consideration, courteously answered in the following communications :

The London Police and their Procedure with Persons found "Dead Drunk" on the Streets. By Norman Kerr, M.D., F.R.S., London, Eng.

Strict injunctions are given to the metropolitan police force, and to the police force of Britain generally, to exercise the greatest caution in differentiating between drunkenness and illness in cases of individuals arrested for presumed drunkenness.

In an address to police constables on their duties, on the 5th of June, 1882, one of Her Majesty's judges, Sir Henry Hawkins, inculcatedon his hearers the necessity to be very careful to distinguish between cases of illness and drunkenness, as many serious errors had been committed for want of care in this respect. Yet the heading, "Drunk or Dying," appears every now and again in English newspapers. No later than the 26th of March, 1894, the London *Daily Telegraph* reports the case of a girl of 15 years of age who was brought up before a police magistrate on a charge of having been found drunk on Sunday afternoon on the streets. The evidence showed that a serious mistake had indeed been made, the girl belonging to a "Band of Hope." She had just left Sunday-school, and fallen down in an epileptic fit, having been subject to such attacks for some years. The wrongly accused girl was discharged. In this case there ought not to have been so much difficulty in the diagnosis as in the case of a man with apoplexy, or with fracture of the skull. If the case was rightly reported by the *Daily Telegraph*, the police instructions do not appear to have been properly carried out. Colonel Howard Vincent, Q.C., M.P., in his "Police

Code for the British Empire" (1889), says: "Persons found on the streets in fits should be carefully taken to the nearest hospital or registered medical practitioner." I have seen several such cases at the request of the constable, and have immediately, when in doubt as to the diagnosis, advised the convulsed person to be taken to the nearest hospital or infirmary, which has been acted on by the constable, who was armed with my visiting card, on which was indicated the doubt and a request for admission as an urgent case.

Regarding persons found insensible, Colonel Howard Vincent, who was a high police functionary, says: "Insensibility is the suspension of the functions of animal life, except those of respiration and circulation. Insensibility is liable to be mistaken for drunkenness, and it must be remembered that the conditions may be complicated with each other and with the effects of drink, and that no single sign can be relied upon in forming a conclusion on the condition of the patient. When a person is found insensible, the following points must be observed:

"*a*. The position of the body and its surroundings.

"*b*. The cause of insensibility. Place the body on the back, with the head inclined to one side, the arms by the side, and extend the legs; examine the head and body, pass the fingers gently over the surface, search for wounds, bruises, swellings, or depressions; ascertain the state of the respiration, whether easy or difficult, the presence or absence of stiffness, and the odor of the breath."

In the same volume in which Mr. Monro, Q.C., late Chief Commissioner of Police in London, in his preface, says that "this code has been in use among the police force for several years," we are told that "persons are frequently found insensible on the streets in reality suffering from apoplexy or other natural causes, the symptoms of which give the sufferer very much the appearance of persons under the influence of drink." Such cases will require great caution, especially if there is no smell of drink. "The police should be especially careful not to assume that a person is drunk,

save on sufficient and incontestable grounds; for illness or the excitement of being taken into custody may at first contribute to such conclusion. In all such cases the first thing to do is to try to rouse the drunkard by gently shaking him. If that fails, the neckcloth and collar should be loosened and the head raised a little, by which means breathing is made easier." It is also laid down that care is to be taken in conveying the apparently drunk and insensible to the station, and placing them in a proper cell. The practice of a constable, when a man is found drunk on the streets, is to take him to the police station, and in presence of an inspector apply certain tests. If the tests indicate suspicion of disease, the divisional surgeon is sent for by the inspector, and, at his discretion, sends the individual to either the infirmary or a hospital.

Though a part of the above "code of instructions" and of procedure seems proper enough, there can be little doubt that, probably from a levity begotten partly of the frequency of mere drunkenness, and partly of unacquaintance with the disease phenomena present in intoxication, the presence of drinking, as evidenced by the alcoholic odor of the breath, frequently so absorbs the attention as to throw the possibility of disease into the background.

A striking case recurs to my mind. A gentleman, aged 55, was found staggering and apparently mumbling incoherently on the street. He had been suddenly attacked by paralysis, and attempted to utter the word "Home," with his address, but could not. The constable thought he was drunk, which irritated the sufferer, who was quite conscious, happily. He saw a friend passing, and held out his hand. His friend, knowing his complete sobriety, recognized the gravity of the case, and took the stricken gentleman home. Curious to say, speech was regained on reaching his house, but the symptoms proved to be the initiation of general paralysis, which was fatal in eighteen months thereafter.

I have known a teetotaler treated, and very naturally so from the symptoms, as drunk, while insensible in an apoplec-

tic fit and suffering from a fractured skull. Nor is such an error in diagnosis confined to constables. But a short time ago a man was charged with drunkenness who had been examined and certified as "drunk" by a surgeon who had been called to the station by the inspector in charge.

The practice in London is to *put no drunkard in a cold cell*, and the instructions are *to visit a drunken man in his cell every half hour.*

A similar mistake as that related has again and again been made by *hospital surgeons*, and *apparently drunken cases have been refused admittance which afterwards ended fatally*, simply because only intoxication was seen, and hospitals could not have accommodation for the immense number of cases of drunken coma or insensibility. If there is a vacant bed, of course grave cases are never knowingly refused.

In view of the difficulty of the diagnosis between simple uncomplicated alcoholic coma and injuries or other serious lesions, I have long come to the conclusion that all cases of alcoholic coma, whether apparently complicated with disease or not, should at once be taken to special wards, either in the police station or hospital or infirmaries, or some other receiving house or home. In my opinion, the fact of being found "dead drunk" should be sufficient warrant for a constable to take such procedure on his own responsibility, if the services of a surgeon cannot at once be procured. If taken to hospital, the public purse should be at the cost of such ward provision, duly appointed and kept at a temperature not below blood heat.

There would be considerable expense incurred, but an imperative duty owed by the State to every person, from whatever cause found either unconscious or uncontrollable on the public way — a duty now very imperfectly paid in Britain — would be honorably fulfilled. I verily believe that not a few innocent lives would be saved, and that such a provision for the helpless and incapacitated would prove a true economy in the end.

Rules that govern the Berlin police in the case of persons found unconscious, etc., upon the streets. By Dr. A. Baer, Berlin, Germany.

"Every person found in coma or unconscious on the street, shall be brought immediately to a public hospital, in the first cab or carriage (*droschke*), or, if delay is possible, in a proper vehicle for the transportation of diseases. The policeman who finds a person in such condition shall transport said person on his own responsibility, without special order from his superior. In all cases, it makes no difference in the disposal of the case whether the coma be due to a cerebral lesion, an apoplexy, or simple drunkenness.

II. Every person who is found hurt or on the street in a helpless state shall be brought by the policeman (*a*) to his own house if he has one or (*b*) to a hospital if he has no lodging. In all these cases the policeman has to enquire the matter of fact and announce it to his superior police court.

III. If a person is found drunk he shall be brought to his own house, even if he is also unconscious, if the house or domicile is known or can be ascertained. The drunken person must be brought to the hospital if he is unconscious or comatose, and if his lodging is unknown.

A drunken person who is disorderly or scandalous is to be brought to the police station, and shall remain until the state of drunkenness has ceased. The name of this person is registered and then the person (having gotten over his intoxication) is given his freedom. If this person has done some wrong or has injured other persons, the fact must be announced to the police court and the person is thereupon transported to the police prison.

IV. All drunken persons brought to the police not quite unconscious, but in a helpless state, shall remain in the police room (station), which must be warmed, and a policeman shall see at short periods if the drunken person sleeps or what else he does. If there is a sign of dangerous illness a physician of the neighborhood is sent for, and if the condition is serious and the case urgent the patient is taken to

the hospital, the case is registered and announced to the superior police court."

Drunkenness, without some injurious behavior, is not punishable in Germany, as with us, subject to fine and imprisonment.

The Parisian system is most complete and satisfactory, and has been in operation many years. The description of it I take from the preface of the English translation of Dr. V. Magnan's work on "Alcoholism," translated by W. S. Greenfield, M.D., M.R.C.P., and published by Lewis of London, 1876. He writes:

"The Bureau d'Admission of the Department of the Seine at St. Anne Asylum in Paris of which Dr. Magnan is one of the two physicians, is an institution to which no exact parallel exists in England (we may add, or elsewhere). To it are brought all the cases of insanity previous to their admission to the various public asylums, and all cases of acute delirium and mania which fall under the care of the *police of Paris*. It is here that they are examined and their admission or rejection decided upon; if admitted they are drafted to the one or other of the asylums which is the most suited to the class of the patient or the form of his malady.

"The Bureau d'Admission is quite distinct from the St. Anne Asylum itself, and under altogether different administration. In order to provide accommodation for the temporary lodgment of patients on their way to other asylums and also for the reception of the more acute cases, it is provided with about 50 beds, and is fitted up in every way as a small asylum. Here there are brought all the cases of delirium tremens and simple alcoholic delirium which fall *under the notice of the police*, and a large number from the lower and middle classes of society, and here they are treated until their recovery. Cases too, of fever with delirium are not infrequent, and it need scarcely be said that acute delirious mania is also often seen. Hence it comes to pass that a very large proportion of all the cases of delirium tremens occurring in Paris and its vicinity come under observation here. . .

There is also an out-patient department to which not

only cases of mental derangement but all forms of nervous disorder, especially epilepsy, are gratuitously admitted, etc.

The Parisian system is such that all cases of mental derangements, all cases of coma, all doubtful cases, which cannot be disposed of in any other way, such as taken to their homes or special hospitals, all such cases found by the police on the streets, in boarding houses, or in public resorts, are brought to a central bureau, to which is attached a hospital, a reception hospital, where they may remain until further disposed of. This system has the advantage that the case is promptly removed, and is without delay brought under the observation of competent medical men, and is at once placed under proper treatment, or assigned to such an institution as is suited to the class and nature of the disease of the patient. There is no unnecessary delay, no lack of prompt treatment, and the dangers of a "mistaken diagnosis," which is the opprobrium of medicine and surgery, are greatly lessened, if indeed it occur at all, because those who sit in judgment upon these cases are physicians of experience, and experts in their specialties, and have opportunities and a sufficient period of time to properly diagnose and treat the cases brought to them. There is no urgency because the case is a doubtful one, and therefore no occasion for a hasty diagnosis.

In glancing over the English, German, and French methods of dealing with the cases under consideration it will be noted that there are some points in common; while the police of each nationality endeavor to secure medical aid for the person, the French by aid of the central hospital system invariably seem to secure that aid in the promptest and most direct manner.

The Parisian method does not describe the conveyance of such persons, by what method, public or private. The German method refers to the privilege of hailing a passing cab or carriage, and thus getting its conveyance from a private source, a "disease wagon," or one conveying sick persons is spoken of.

Dr. Kerr informs me that in London they do not have any conveyance similar to our "ambulance system." Cer-

tainly it would seem the large European cities ought to have all the advantages derived from the telephone, the telegraph, and the "ambulance service," as we have it in all our large American cities, at least in New York and Brooklyn. Let me recommend to our transatlantic brethren the "ambulance service," susceptible of improvement, no doubt, and yet indispensable when promptness not only, but comfort to the injured are both combined.

We believe, with the best features of the English, German, and French methods, incorporated with our American ambulance service, the best results could be obtained in careing for those who are taken sick, unconscious, or insane on the streets of our cities.

It may be of interest to give a brief statement of the ambulance service of the city of Brooklyn for the year 1893:

During the year 1893 there were arrested for various specified offences, 33,748; of this number 23,307 were intoxicated when arrested. The total "ambulance calls" were 8,705, of these 399 were specified as "alcoholism." 5,264 "ambulance calls" were by the police, the balance by citizens or institutions, etc. It will be noticed that the ratio of the "ambulance calls" for cases of "alcoholism" in comparison with other causes were about one in twenty-one or twenty-two.

The disposition of the cases of "alcoholism" was as follows:

	Hospital.	Precincts.	Home.	Not removed.	No record.
L. I. City Hospital, . .	11	..	..	..	..
Homeopathic " . .	30	12	24	198	20
Charity " . .	6	..	..	..	..
Norwegian " . .	7	..	..	..	.
East District " . .	19	..	.	..	..
St. Catharine's " . .	27	..	..	..	..
St. Mary's " . .	14	..	.	..	..
City " . .	18	..	..	..	..
Meth. Epis'pal " . .	13	..	..	..	..
Total, ...	145	12	24	198	20

Total cases, 399.

It will be observed that exclusive of those taken to hospitals, or precincts, or taken home, a large percentage were "not removed," that is, were considered ineligible cases for hospital treatment, so that if we include the 12 precinct cases, 210 persons of the 399 for whom the ambulance was called did not receive hospital treatment; of the balance 24 were taken home and as to the disposition of 20 there was no record.

A more detailed record of the cases of "alcoholism"—from the time the ambulance was "called" until the final disposition of the cases, would render this department of the "ambulance service" more effective, and by a more accurate system of recording this class of cases be the means of preventing the errors to which the present method is liable, being also, from a statistical point of view, of value as the city increases in population. This branch of the "ambulance service" will increase also, and to be effective must be thoroughly systematized, and the average so-called "drunk" be carefully examined by a competent medical officer and given, at least, the advantages that the "ambulance service" extends to the generality of the diseases and injuries.

We believe, that by selecting and combining the best features of the English, German, and French methods, the police and medical authorities can secure a more perfect method of caring for the class of cases under consideration; we might almost add a perfect method, if we consider the advantage that the "ambulance system" gives us, in handling these cases with celerity and dispatch.

With a view to enquire into, and if possible to remedy, the present method of dealing with persons who are found upon the streets by the police, said persons being in a condition of complete or partial coma, or a state of mental aberration from disease, injury, alcohol, or other narcotic drugs, a committee was appointed by the president of the "Kings County Medical Society," Feb. 20, 1894, on motion of Dr. J. H. Raymond. The committee submitted, May 28, 1894, the following report and recommendations to the society:

Brooklyn, May 28, 1894.

Mr. President, and Members of the Medical Society of the County of Kings:

Gentlemen: — Your committee, appointed February 20th, to report "what means have been provided in the city of Brooklyn for the immediate care of persons found unconscious in the streets" would respectfully present the following preliminary report.

In the brief time which has elapsed since they were appointed, they have had only time to make a superficial examination of the subject, but they feel that they have already ascertained enough to warrant them in making this preliminary report, and also in suggesting some recommendations, which are based on facts which have come to their knowledge.

They are not prepared to give specific instances which have occurred in this city, yet from their knowledge of the system in vogue and from the experience of cities where the conditions are not very dissimilar, they are satisfied that in Brooklyn there can be an improvement in the methods of managing such cases.

Perhaps in no better way can these defects be shown than by narrating concisely some instances which have come to the knowledge of your committee, and as it is not their intention or desire to criticise individuals, but systems, the places in which the events occurred will be omitted.

Case 1. Man found unconscious in the area-way of a dwelling. Taken by police to station-house. Ambulance surgeon summoned. After examination, during which the smell of liquor was recognized in the breath, the diagnosis of "drunk" was made, and man left lying on the floor of the station-house. Later, a more experienced physician by chance came to the station-house and examined the man. He advised that the man be sent to the hospital, stating that it was impossible for any one to tell whether he was suffering from alcoholic coma or from a fracture of the skull. His suggestion

was carried out, and the next day the man died, and the autopsy revealed an extensive fracture of the skull at the base.

CASE 2. Man found unconscious in the street. A well-wisher, who found him, rushed immediately to the nearest drug-store and obtained a glass of whisky, which he gave him. Ambulance surgeon was summoned and pronounced the man "drunk" and refused to take him to a hospital. The man subsequently died, and the autopsy showed a fracture of the skull, and the man's history was ascertained to be that of a perfectly temperate man.

CASE 3. Man, aged 55, suffering from incipient general paralysis, was arrested for intoxication.

CASE 4. Girl, aged 15, attacked with epileptic coma, was arrested for intoxication.

CASE 5. Fracture with cerebral laceration treated for alcoholism.

CASE 6. Uraemic coma mistaken for alcoholism.

CASE 7. Man found unconscious, taken to hospital, where he was refused admittance on the ground that he was only a "drunk." Was taken to the station-house, where he died. Autopsy revealed a fracture of the skull.

CASE 8. Man seen by a policeman to be reeling in the street. Was arrested on the charge of intoxication and locked up over night in a station-house. He was able to send word to his physician, a most eminent practitioner, who had great difficulty in convincing the police justice, before whom the man was brought, that his patient never drank, and that what the policeman took for evidence of drunkenness was the result of poisoning from bromides.

The following extract from the Journal of the American Medical Association is so much to the point that we venture to quote it:

"The death of John Markey a few days ago in Chicago from a fractured skull, he having been run into by a street-car, and booked for drunkenness by the police, is another evidence of the stupidity of the average policeman, and the

careless disregard for life that obtains in this country among police officers. An inquest was held. 'The intelligent coroner's jury heard the testimony of the intelligent officers, and rendered the intelligent verdict that the death was the result of acute alcoholism.' His wife was not satisfied, as she knew her husband was not a drinking man, and she induced the coroner to have a post-mortem made, when it was found that his skull was fractured. A second inquest was held, which resulted in a verdict in accordance with the facts.

"A man is found in the streets unconscious, no matter whether it is due to apoplexy, fracture of the skull, or any lesion of the brain; he is thrust into a cell to sleep off his supposed drunk (often to be found dead in the morning) or for the same reason not received at a hospital, when if he had been properly cared for his life might have been saved. In some cases, no doubt, there may have been evidence that the party had been drinking, and probably had received his injury while intoxicated, but this is no reason why he should be neglected. The police should be instructed, so that at least when in doubt a medical man be called to see the case. The judgment, "dead drunk," is too often literally true. Instances of this character have often occurred, and within the last six months twelve cases have been noted in different cities, and it is high time that something should be done to stop it. Unfortunately, the police are not alone in this disregard of life, as two months ago two ambulance surgeons of New York committed the same mistake, we might almost say the same crime."

These instances are but samples, and they might be greatly multiplied; they undoubtedly indicate a deficiency in the public service in most cities, which, in the name of humanity, demands a remedy.

The frequent occurrence of mistaken diagnosis makes it necessary that more earnest attention be paid to this subject than has hitherto been paid. The differential diagnosis between alcohol coma and cerebral conditions simulating it is

not easy, indeed, is sometimes impossible. Fracture of the skull, concussion of the brain, cerebral hemorrhage, embolism, thrombosis, uraemia, epileptic coma, narcotic poisoning, and heat apoplexy have all been mistaken for alcoholic coma. This is especially the case when an alcoholic condition has accompanied the other condition. Such mistakes have been made by well-informed medical men, and it is therefore not surprising that a policeman or a recent graduate of medicine, acting as an ambulance surgeon, should likewise err in diagnosis.

Your committee do not at this time feel prepared to make a final report on the matter intrusted to them, but do, nevertheless, feel justified in offering the following recommendations, asking that they may be continued as a committee until such time as they are prepared to make a final report.

Recommendations. First: — That while they believe that the system which exists in Paris is, perhaps, the most perfect, by which all persons found unconscious in the streets are taken to a special hospital where they have the most enlightened treatment possible, still it is a question with them whether the distances are not so great as to make such a system impracticable in Brooklyn. They prefer, therefore, to keep this question under advisement for a longer time.

Second. That all persons found upon the street in an unconscious or semi-unconscious condition, or wandering about in a state of mental aberration, shall be removed to their homes, or if they have no homes or their residence cannot be ascertained, then to the nearest hospital, and a visiting physician or surgeon shall be at once summoned.

Third. That alcoholism or suspected alcoholism should not exclude such persons from the benefit of proper medical treatment, inasmuch as simple cases of alcoholic coma, partial or complete, are serious and demand treatment, and again, alcoholism often obscures and is associated with serious cerebral lesions. In any event, therefore, such cases should have proper medical treatment.

Fourth. If for any reason such cases cannot be taken

either to their homes or to the hospital, and must be taken to a station-house, they should be placed in rooms properly warmed, and a physician should be summoned to examine them. If they remain in the station-houses, they should be visited every half hour by the watchman, and if any alarming symptoms supervene, a physician should be immediately sent for. The practice of locking in a cell for hours without inspection a person unconscious from alcohol, whether the same is complicated with injury or not, is inhuman.

Fifth. In case of doubt, as between the police and the ambulance surgeon, a police surgeon should be summoned, and the disposition of the case should be determined by him.

Signed by the committee.

J. H. RAYMOND, M.D., *Chairman*,
J. C. SHAW, M.D.,
L. D. MASON, M.D., *Secretary*.

Those who are interested in the work of the Committee and desire to communicate with them on the subject, can do so by addressing the secretary,

DR. L. D. MASON, 171 Joralemon Street, Brooklyn, N. Y.